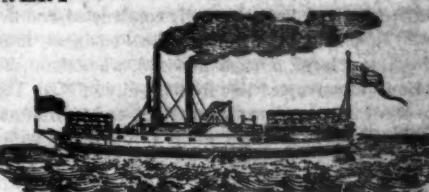


AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY
AND MINES.



ESTABLISHED 1831.

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SATURDAY, AUGUST 7, 1847.

[WHOLE NO. 581, VOL. XX.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

PRINCIPAL CONTENTS.

Lebanon Springs and Bennington Railroad	498
Railroads in North Carolina	498
Ocean Steam Ships	498
Louisa, Va., Railroad	498
The Iron Trade	498
Railway Compass	498
Institution of Civil Engineers	499
The Connecticut River Railway	499
Baltimore and Ohio Railroad	500
Electric Telegraph	502
Lehigh Navigation Company	503
Locomotive Engines	503

AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, August 7, 1847.

Canadian Railways.

We have the pleasure of inserting, in this number of the Journal, the Notice to Contractors of the "GREAT WESTERN," Canada, Railroad Company, for the "letting" of one hundred and fifty-five miles of their important work. This looks like going ahead with a rush, and like making up for the delay which has been so uncomfortable to the friends of the work. With good management, now that they are fairly in the field, we have reason to hope that the work will be soon completed.

NOTICE TO CONTRACTORS.—GREAT WESTERN RAILWAY, CANADA WEST.
Sealed proposals will be received until the 1st day of next October, at the Office of the Great Western Railway Company, for the Grading and Masonry of the Western Division, extending from Loudon to Windor, a distance of one hundred and ten miles; also for the branch to Port Sarnia, forty-five miles in length.

Plans and Specifications of the work can be examined at the Engineers' Office, in Hamilton and Loudon, on and after the 15th of September.

C. B. STUART, Engineer.

Hamilton, July 30, 1847.

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Stony Brook Railroad.

We understand, says the Bunker Hill Aurora, that the contract for the grading, masonry, and superstructure of the Stony Brook railroad, has been taken by McCullough, Prichard & Co., and that the work will be shortly commenced. This road will connect Lowell with the Fitchburg, Peterborough, and Shirley, and Nashua and Worcester railroads, at the Groton depot.

Spark Arrester of French & Baird.

The value of this appendage to the locomotive has been thoroughly tested, and found to surpass any thing of the kind, for that purpose, in use in this country. An evidence of the estimation of its value may be found in the fact that nearly four hundred of them have been made within the past four years. We saw six of them nearly completed, on a visit to the manufactory, a few days since, to fill an order for the "Cardenas Railroad," in Cuba—an other order was recently filled with nine of them, made of copper, for the "Havanna and Guienas Railroad," on the same island—and fifteen others were sent to the different roads in Cuba last year. These spark arresters are also, we understand, very generally used on the railroads in the southern states, where cotton is transported. They are almost a certain preventive of accidents by fire from sparks, as well as a great relief to passengers—and should be used on every locomotive in the country. There has not been, we understand and believe, a single accident from fire, arising from the sparks from the locomotive where this arrester has been used—while on some roads fires, causing great loss of property, were not uncommon before the introduction of the "Spark Arrester" of French, Baird & Campbell, of Philadelphia.

Railroad Brakes.

We have deemed this subject one of great importance, and have therefore often referred to it, and published accounts of what have been termed "improved brakes," from the English Journals.

The following communication is from a gentleman who desires its publication, yet declines to give his name for the present. We comply with his request, as we hold that every inventor should judge for himself when, and how, to bring his inventions before the community; yet we assure him that, if he has such a "brake" as he anticipates, we shall not allow him to keep it long to himself. Such a machine is too much needed on our numerous railroads, and will be too highly prized, to be allowed to remain long out of use. The writer says:

"Having observed in your valuable Journal, from time to time, articles on the railroad car brake, I intrude myself upon your notice to state that about eighteen months ago I took this subject into consideration, and devoted a good deal of thought to it, the result of which was the perfecting of a plan by which every car in a train—of no matter what length—can be effectually and instantaneously braked at the will

of the engine man, and without the aid of any other person.

"Everything desirable in a brake is combined in this plan, and the cost of attaching it to each car would not exceed \$6, or thereabouts—a very small item when compared with the losses sustained so frequently from accidents which this brake would entirely prevent.

"My peculiar situation has hitherto kept me silent on the subject; but should any person desire it, I would cheerfully enter into arrangements for the introduction of this brake upon the different railroads in the country. Truly yours,

L."

Coupling for Railroad Cars.

We find the following description of an improved coupling for railroad cars in the Baltimore Clipper, of 31st July. If it is as represented, it should be better known, and in general use—as many serious accidents have occurred from the difficulty of detaching the cars from the train. If the inventor will send one of them to the office of the Railroad Journal, as a sample, we will—if it proves to be what it is represented—do our best to aid in its introduction upon all the railroads. The Clipper says:

"Mr. A. G. Heckrote has recently patented a new machine for the coupling of railroad cars, which promises to be of great utility. In addition to the ordinary coupling box, a flat roller, a tumbler similar to that of a gun lock, a dog and a spring, are attached, all made of cast iron, except the spring, and weighing about 100 lbs. It is self-acting, so that two cars can be coupled without the danger usually attendant on the old plan. The machine has play sufficient for any curve or angle of a switch; but in case of a car running off the track, it instantly detaches all the cars behind; and any car or number of cars can be detached at pleasure, by a slight pressure of the spring, by the hand or foot, without stopping or impeding the cars or locomotive in front. The expense of a machine is from \$6 to \$10, and it will, no doubt, supersede the old fashioned bolts and chains. One was tried on the Washington Branch road for twelve days, and found to answer every purpose for which it was designed. A machine similar to this would have avoided many accidents and consequent loss of life, which have frequently resulted from whole and parts of trains of cars running off the track, as well as many which have occurred from the old manner of coupling, when stationary."

**Lebanon Springs, N. Y., and Bennington, Vt.
Railroad.**

We have, more than once before, called attention to the importance of a railroad from the Western Massachusetts railroad, at or near Canada, by the way of Lebanon Springs, to Bennington, and thence to Rutland, in Vermont, thus opening a direct communication between the Housatonic railroad and the Harlem railroad, when it shall—as it will—find an outlet at the north. There is a rich and fruitful valley, with easy grades and abundant water power, where a railroad may be easily constructed, and then well supplied with a profitable local business, in addition to a large *through* business, when there shall be an uninterrupted line from the city of New York to Burlington, and to Ogdensburg, and to Montreal, as will soon be the case, either through this valley, or by the way of Pittsfield and North Adams, and thence to Rutland.

The trade of western Vermont is too important a matter for the merchants of New York to give it up to Boston without an effort; and therefore a railroad will be constructed by which that trade may reach New York direct, and then for a fair competition. It therefore stands our friends, at Lebanon Springs, in hand to move early and earnestly in the matter.

The following extract from a letter from a gentleman at the Springs, says:

"You will, I hope, again indulge me in a remark or two in relation to the hope we cherish—that one day our valley will supply a link in the great railroad which will connect New York with Montreal, Quebec and Ogdensburg. We are watching the progress of the several roads north and south of us, and it is gratifying to see the Harlem railroad rising in public estimation. So far as we are interested, it will serve our purpose if this road forms a junction with the Housatonic, where I have marked on the enclosed map—from the Canaan Flat Brook we have a survey to the Springs, eight miles, by a competent engineer, showing a grade in no case exceeding forty-one feet to the mile, and in one or two instances, only coming in the neighborhood of that elevation. The grade from Lebanon Springs to Bennington, Vt., is much less than that maximum, pursuing, as it does, a direct course through a great valley the whole distance, some 25 or 30 miles."

From this it will be seen that the route is exceedingly favorable, and only requires a little effort to carry it through, and we trust that that effort will be effectually made at an early day.

Railroads in North Carolina.

The Fayetteville (N. C.) Observer says, that immediate steps are to be taken to raise a fund for making a survey of the route for the railroad from Raleigh to Camden, under the superintendence of a corps of engineers, to be selected by the capitalists of Boston, who have purchased the Portsmouth and Roanoke road, and who are about to extend that road to the Raleigh and Gaston road. On the 15th instant, books of subscription were opened at Weldon, to the stock of the company, chartered by the North Carolina Legislature, to fill the space from the present termination of the Portsmouth road to and by Weldon to the Gaston road. A sufficient amount was promptly subscribed by the citizens and the Boston company, and the first instalment paid in. A partial survey of the route has already been made, and it is supposed that the junction will be made at a point near Littleton, on the Gaston road. A meeting of the stockholders will soon be held, and the company organized by the appointment of officers. It is expected that this road, in first rate order, will be ready for next spring's travel.

Ocean Steam Ships.

A friend and correspondent in London asks us "How does it happen that the steam ship Washington, which is to leave New York on 1st of June for Bremen, has so much more 'horse power' than English steam ships of equal, or greater tonnage? Has not the advertisement respecting the Washington, announced that she has more horse power than tonnage, or as much? Is the mode of measuring horse power different in America from that used in England, as is the case in regard to tonnage?"

We find, by referring to the advertisement of the Washington, that the tonnage is put down at 1750, and her power at 2000 horse—or "two engines of a thousand horse power each."

The mode of estimating "a horse power" is the same, we believe, in both countries, viz.:—though in our estimation it is not always accurate.

The power of the Washington to her tonnage is greatly disproportionate, in comparison with English ocean steam ships, if those built and building for the "Peninsular and Oriental steam navigation company" are any criterion. By the report of this company, made at their last half-yearly meeting, we observe that since the previous "meeting of the proprietors the following vessels have been despatched by the directors to India and China, viz:

	Tons.	Horse power.
The "Haddington"	1,647	500
" Pekin"	1,182	430
" Pottinger"	1,401	500

This addition to the company's ships in the east will greatly improve the efficiency of the establishment, and give a more permanent character to its operations in that quarter. The directors intend to follow up these arrangements, by placing two additional vessels in the Indian seas. And for this object, they have made contracts with Messrs. Pitcher, for two timber ships of 1,205 tons each; and engines by Messrs. Miller, Ravenhill, & Co., of 450 horse power each; Messrs. White, of Cowes, are also building for the company one vessel of 900 tons, to be fitted with engines of 350 horse power. In addition to the foregoing, the following vessels are in course of completion, and will be added to the company's fleet this year, viz:—

	Tons.	Horse power.	Ready for sea.
The "Indus"	1,220	500	June, 1847.
" Trafalgar"	1,000	400	July, 1847.
The	1,040	400	Oct., 1847.
The	1,220	500	Dec., 1847.

From this it appears that the power compared with the tonnage is less than half—while in the Washington it is naturally greater.

We should like to hear from some of our readers, interested in and familiar with the subject.

Louisa, Va., Railroad.

We are indebted to Col. Fontaine, says the Richmond Republican, for a copy of the proceedings of the twelfth annual meeting of the stockholders of the Louisa railroad company. We shall make a more extended notice, as soon as we are able to examine its proceedings.

We are glad to see the increasing interest manifested by the people of Albemarle, Rockingham, etc., in regard to the Louisa extension. But what are our good friends of Augusta doing? Surely they cannot be insensible to the importance of earnest and speedy action.

The affairs of the company have been conducted with the greatest skill and prudence, under the auspices of Col. Fontaine, its able, sagacious, and energetic president.

We have never yet seen a report of this company. (Ed. R. R. J.)

The Iron Trade.

The London Mining Journal, of 25th June, says that the average price of rails was £9 and £9 5s.—and that Scotch pig in the Clyde was £3 3s. and £3 5s.

The Glasgow pig iron trade was dull. A lot of mixed Nos. was forced on the market under peculiar circumstances, and brought 6d. 3d.—cash.

On the 2d of July the quotation for rails was £8 15s.: yet the reports from Glasgow and South Staffordshire were better than the previous week—as will be seen by the following extracts from the Mining Journal, of 3d July:

Glasgow Scotch Pig Iron Trade, July 1.—The business done in pig iron for the last week has been very limited. The market opened rather more firmly this week, and the subsequent accounts of a falling grain market have confirmed an improvement in prices. Some sales have been made at 6d. and 6d. 6d., cash, for mixed Nos. To-day we have buyers at 6d. 6d., and sellers at 6d. to 6d. 6d. cash.

South Staffordshire.—The prospects of the staple trade of South Staffordshire for the ensuing quarter are extremely flattering, and the downward tendency of the corn market, accompanied by the probability of an early and abundant harvest, have inspired confidence in the minds of those most interested in this important branch of commercial and industrial enterprise. The preliminary meeting of the iron masters, in an anticipation of the general quarterly meetings which are held, at stated times in various parts of the district, was held yesterday, at the Stewpony Inn, near Stourbridge. It was very numerously attended by the influential members of the trade, and we are happy to state that the gloomy forebodings of railway repudiation have not been realized. The trade was represented as peculiarly firm in its aspect—the orders were abundant, and a virtual resolution to support the present prices was unanimously agreed to. The formal meetings of the trade will be held next week, and we are led to anticipate from the activity which has prevailed during the last quarter, and the healthy state of trade throughout the district, that the result will be satisfactory both for past and future.

Railway Compass.

It is stated in an English paper that an instrument has been invented which will "at all times show the speed of the engine, the distance to the next station, and the position of the train on the line. A chronometer connected with it shows the railway time. It will note the time occupied at each station, and the speed of each mile, on a paper, which can be taken off and filed. One index on the dial points to the place which corresponds to the one on the railway; another indicates the speed; a third revolves once in 10,000 miles, showing what distance the engine has travelled. This instrument is moved by a separate wheel running on the rail, is not effected by breaks, and being illuminated at night, is easily seen by the engineer. The experiment has been successfully tried, fully realizing the anticipations of the inventor."

This may be a very useful instrument, but we would give more for a good "brake,"—such an one as is spoken of by our correspondent "L." in another column, than for a dozen such instruments.

Atmospheric Railway.

We regret exceedingly to hear the following admission from one who has watched the progress of this beautiful system, and who has formerly had great confidence in its ultimate success. He says,

"I am afraid the practical difficulties respecting the atmospheric railway are not sufficiently overcome to make it an economical mode of traction. The Croydon atmospheric is given up, and—although some papers say that the 'South Devon' and the 'French' atmospheric are doing well, Heraclitus says the contrary,—it is impossible to come to any conclusion on the subject. The Kingston and Dublin atmospheric certainly does well."

INSTITUTION OF CIVIL ENGINEERS.

Who can estimate the benefits resulting to science, and to the profession, from this noble institution in England? At almost every meeting some valuable paper is read by some one of its members, and speedily published in that excellent periodical the Civil Engineer and Architects Journal. Through the instrumentality of this institution, the discoveries and improvements of the numerous able men of the country are brought under consideration and discussion, and then given to the public in a manner which commands respect and confidence.

So highly is it estimated in Europe, that a similar institution is to be established in France, under the auspices of the minister of public works—and we trust that ere long we may have one established in this country.

We find the following article on the difficulties of "bridge building" in Holland, in the number for April of the C. E. & A. J. It was read at the meeting of 16th of March, by the CHEVALIER CONRAD.

The paper read was "*A description of the method adopted in Preparing the Foundations and in Building the Bridge over the Poldervaart, on the line of the Amsterdam and Rotterdam Railway.*"—By the Chevalier Conrad, M. Inst. C. E., compiled by Mr. C. Manby, secretary, from documents furnished by Mynheer Wenckebach.

This bridge derived its importance from the peculiarly treacherous nature of the ground upon which it was constructed, for, although in Holland bad foundations are the rule rather than the exception, the difficulties were in this case so peculiarly great, as to demand particular notice. The Poldervaart is a canal encompassing and conveying away the waters from the Polders, or spots of drained land in the commune of Kethel. The railway, traversing it at a considerable angle, rendered a skew bridge, of three openings, necessary—the centre one 13 feet space for the navigation, and the two side arches 21 ft. space each, for the drainage water. The proceedings were commenced in the usual manner, with the intention of having separate foundations for each pier; this was by shooting in large quantities of sand, to form dams, within which, when pumped dry, the foundations would have been excavated.—After a length of about 70 feet of sand, a dam 10 feet deep had been filled in, without exhibiting any signs of sinking; a heavy thunder storm occurred, during which the whole mass of sand dam was suddenly engulfed to the depth of 29 feet; while there arose simultaneously, at a short distance down the canal, to above the water level, a mass of bog earth, of an area of 4989 square feet—this mass increasing at subsequent periods of the proceedings to the area of 9628 square feet. It was evident that an extensive subterraneous shifting of the bog earth had occurred, and there was reason to fear for the safety of the adjacent dykes and other works.—Piling and fascine works were tried without success: piles of 70 feet in length, when driven and tied together by waling pieces, swerved bodily from their position, and became useless; fascines equally failed in producing stability. The engineer, therefore, determined, after directing the canal water in-

to a side cut, to surround the site of the intended foundation with mounds of sand, allowing for their subsidence in the gulf below and then squeezing up the bog earth around and within the spot. This was at length completed, and the foundation pit was enabled to be pumped dry. It then became necessary to remove all the bog earth from within the space for the foundation, which was accomplished by digging out spaces of a yard square, and filling them in with sand as they proceeded, until, by commencing at the exterior, and working inwards to the centre, all the bog earth was removed, and a bed of sand had been formed in its place. The piles for the ordinary foundation used in Holland, were then driven through the made ground, and the structure was completed with perfect success: the sand dams, and the masses of upraised bog earth outside, being subsequently dredged up in the ordinary manner, to restore the canal to its original bed. In this description, the circumstance most deserving attention, appeared to be the sudden rising of the bog earth during a thunder storm. This is, however, of frequent occurrence in Holland; and it would appear as if the adhesion of the masses of bog earth to the bottom was so slight, that the vibration communicated to the water by the thunder, sufficed to destroy the equilibrium, and the bog turf, which, from its slight specific gravity, will float even when wet, instantly rose to the surface; when therefore, as in this case, a heavy mass of sand was placed in the vicinity of such bog earth, the bottom was unable to resist the pressure, and the least vibration caused it to break through the crust, being engulfed amidst the lighter material, which it forced up in the direction of the least resistance. The paper treated at some length on all the precautions necessary in this and similar constructions in Holland, where such bad foundations are of very constant occurrence. In the discussion which ensued, descriptions were given of the simpler methods employed in similar situations in England, where bridges of greater weight and space were constructed upon foundations of nearly as treacherous natures: for instance, on one of the branches of the Norfolk railway, for a bridge of which the swinging portion weighed 100 tons, a series of 16 piles, driven 50 feet deep into the silt in 12 feet water, supported a cast iron curb, upon which a cast iron close jointed cylinder was lowered and secured; within this the centre foundation was built and had stood perfectly.

Other instances of raft, or floating foundations, common in Lincolnshire, were adduced, showing the simple means by which such local difficulties were overcome in England.

The Connecticut River Railway.

We find in an exchange paper the following article in relation to the Connecticut River Railway. It gives an interesting and cheering view of the progress of that important link of railroad which is destined to connect the cities of New York, New Haven, Hartford and Boston, with Montreal and Quebec—which, indeed, is to intersect the numerous important lines of railroad from the Atlantic cities,

New York and eastward, to the Canadas—to Burlington, Ogdensburg, Rutland, Whitehall and Albany.

The editor of the Springfield Republican speaks from personal knowledge, as he lives in the very heart of the Connecticut valley—yet we may be allowed to give an opinion in relation to the same matter, as we can also speak of that region of country from long personal knowledge.

It is true, as he says, that "the Connecticut valley is the *Garden of New England*;" and it is destined to become—if it is not now so—and remain the most populous part of the Union. It will produce and send to market annually a greater value of property than any other region of equal extent, and consequently there will be more passengers passing over it than over any other road in the country, except between large cities, and except also between those cities and the great west—and therefore the Connecticut River railway will become—and that, too, in a few years—one of the most productive railroads in the country. Let those, then, who are immediately interested in it, lose no time in pressing it forward to a speedy completion. The editor says:

"We have lately directed some attention, and in turn would earnestly invite that of the public generally, and more particularly of that large portion of New England which lies along the *Valley of the Connecticut*, to the importance of speedy action on the subject of that line of railroad communication, which, extending from the northern boundary of New England to the city of New York on the south, and northerly to the cities of Montreal and Quebec, forms what may emphatically be called, *the Connecticut River Railway*.

"Of the many important lines of railroad, now constructed or in progress of construction in New England, there is none perhaps which touches the interests and important interests too, of so widely extended a population, as does this. It passes through the heart of the country, and in one of the most populous and richest valleys of our land; and may, when brought to perfection, unite upon it an amount of business, the extent of which can scarcely be realized at this time. We propose to state a few facts, showing the present position of the line as a railway communication, and exhibiting in a striking light the necessity and importance for early action to make its perfection sure and speedy.

"This line is about 488 miles in extent, and embraces at present several distinct lines of railway, all of which are completed or in rapid course of completion, with the single exception of the line between Greenfield and Bellows Falls, a distance of only about 40 miles.

"The importance of this connection may easily be seen by a slight inspection of the map of the country: and we invite the reader to make such an inspection. To aid and explain the examination, the following list of the roads, now completed and in progress of construction, and the lacking connection is given:

	Miles.
Montreal to Sherbrook	85
Sherbrook to Derby	30
Derby to White River	114
White River to Bellows Falls	40
Bellows Falls to Greenfield	40

Greenfield to Springfield	38
Springfield to New Haven	61
New Haven to New York	80
Total distance	488
" Of this distance there are now completed and in actual operation, the lines from	
New Haven to Springfield	61
Springfield to Greenfield	38
	99
" And in the course of a year there will be completed the following additional portions :	
Montreal to Acton	45
Wells River to White River	40
White River to Bellows Falls	40
New Haven to New York	80
	205
" There will then remain to be completed, the lines from	
Acton to Sherbrook	40
Sherbrook to Derby	30
Derby to Wells River	74
Bellows Falls to Greenfield	40
	184
" Of these, the lines from	
Acton to Sherbrook	40
Sherbrook to Derby	30
Derby to Wells River	74
	144

will probably be completed in the year 1849—leaving the line from Bellows Falls to Greenfield alone unprovided for.

" A matter of such immense importance to the whole of this extensive territory—and this cannot fail now to appear so to every reflecting mind, who has accompanied us thro' this route as above—should not pass without attention. Immediate provision should be made for the connection of this line between Bellows Falls and Greenfield; and for this purpose we cannot believe that anything more is necessary, than that the subject should be fully presented to the public.

" We understand, and we rejoice to learn the fact, that arrangements are in progress for holding a convention of all the parties interested in this extension, or rather connecting line, at some central point, for the purpose of taking such measures as will ensure the construction of the work. We cannot permit ourselves to doubt the success of any rightly made efforts for this purpose, and we hope to see them promptly made, and vigorously carried forward.

" The success of the existing lines, independent of the immense aid which a thorough connection would give them, is such, even from their short experience, as to afford ample evidence of a high state of prosperity.—To substantiate this more fully, we have obtained some facts relative to the ' Connecticut River railroad,' extending from Springfield to Greenfield.

" This road paid dividends of interest to its stockholders up to near the close of last year, the time when it was completed. On the 1st of July instant, it declared a dividend of 3 per cent. from its net earnings, being its first semi-annual dividend.

" The roads in New England are very few that have so promptly met the expectations of their proprietors. Those which rival it in

this respect, enter Boston. But this road is in the country, remote from large cities. Its northern terminus is at present in a small town, of not exceeding 2000 inhabitants. Its success is owing to, and demonstrates most fully, the populousness and richness of the country through which it passes. The valley of the Connecticut is truly the garden of New England.

" The coming months of the year from July 1, are much richer in business and less in expenses, than the past six months. A dividend of 3 per cent. may therefore be relied upon for January 1, 1848. The second year will do better than the first, if the experience of other roads teaches aright.

" The number of passengers over the road on Monday, the 5th July, was nearly 8,000, which will compare well with the business of that day on railroads leading from Boston.

" About half way between Springfield and Northhampton, the road passes through the heart of what is destined to become, at no very distant day, the largest manufacturing city of New England, commanding the entire water power of the Connecticut river. This property has just been purchased by wealthy capitalists, who will push forward improvements with great rapidity during another season.

" With Springfield and its 15,000 inhabitants at its southern terminus—with Northampton, so much frequented by travellers, at its centre—and with numerous literary institutions and with rich and populous villages throughout its length, the Connecticut River road cannot fail to do a large and remunerating business. The 'New City' is hardly needed to add assurance; nevertheless, it is rapidly coming into life, and will add astonishingly to the business of the entire valley.

" There is no reason to doubt, that the other roads of the valley will have an experience like that, which has fallen to the Connecticut river railroad, during the short time it has been in operation; and when the lines are all connected together into one grand chain, extending from Montreal and Quebec to New York city, the augmentation, which the travel between the extremities,—induced by necessity and convenience in winter, at least, and by pleasure in summer—the produce of the north seeking a southern market and returning goods of every description, will give to them, one and all, a place undoubtedly by the side of the most prosperous and profitable roads in the whole country."

Baltimore and Ohio Railroad.

Continued from page 485.

From other high sources in the State of Ohio, men eminent for their official rank and practical knowledge and experience, the committee have been assured, that both the government and people of Ohio require that the line of eastern and western connection by railroad through their State should be nearly central as possible, and that the nearer it could pursue the course of the National road, the more acceptable it would be, and the greater encouragement it would receive. The same sources reject a connection with Pittsburg, as being too high up the river, too

far off, and too remote for the great resources of the State, and they also reject Parkersburg, as being upon the other extreme.—They uniformly prefer Wheeling, or some point near it, and not remote from the National road; and they all concur in the opinion, that if this company should conclude to terminate their road at Wheeling, and begin in earnest to construct it to that terminus, the resources of these parts of the Ohio more particularly interested, would be immediately called into activity, and the great central line be promptly extended to the river opposite to that city.

The committee have felt it to be their principal duty to refer emphatically to this certainty of a connection with the western improvements, since, without such reliance, there could be little object in the expenditure of any amount of capital in reaching the Ohio river at any point. Those improvements, when, and wherever made, must ultimately supersede the river navigation for the purpose of travel, and materially interfere with the transportation of tonnage by the same channel; and any railway from the Atlantic seaboard, that does not reach the proximity of the great line of railway communication from the Ohio river throughout the valley of the Mississippi, will surrender the main object of the enterprise. The committee are not aware that information, more pertinent or more to be relied upon than that they have produced, could have been obtained. The cities of Columbus and Zanesville, and the State of Ohio generally can have no ground of preference for any road to the Atlantic but one founded upon the most direct and the cheapest line to market.

Of the minute, familiar knowledge of the subject in all its details, of their acquaintance with their own interests, and of their sagacity in adopting the best mode of promoting them, no one can doubt; and when all these great interests are found of universal accord in rejecting one route, as only to be forced upon them from necessity, and recommending another as certain to develop their own resources, and to ensure a communication between Cincinnati and the far west and Baltimore, it would seem to be unwise to reject their positive information, and resort to the region of speculation to find something better. It should not escape the attention of the Board that, while in the central and southern parts of the State of Ohio, there may be some difference of opinion whether the preference, as to the terminus of our road, should be at Wheeling, or Fishing creek, or Parkersburg, they all unite in one common, universal sentiment in discouraging and depreciating a terminus at Pittsburg, or at any point north of Wheeling; and it is worthy of remark, that such a universality of sentiment is strictly coincident with, and powerfully corroborative of, the views and preferences of the original projectors of this enterprise. Indeed, the committee would find it difficult to suggest or imagine a stronger incentive to the prosecution of the road to any given point on the Ohio river, than that in the enlightened opinion of the

great mass of the intelligence and practical experience of the western country, it would ensure an immediate connection with those improvements by which the travel and trade of the Mississippi valley were to be conducted to the Atlantic market.

Upon the present occasion, however, the terminus or termini of the Baltimore and Ohio railroad recommended by the committee, offer the additional advantage, that while they ensure an early connection with the western improvements, they also ensure the command of the trade and travel of the western country, whether pursuing the river navigation or the improvements on land, *without competition*. The distance from Columbus and Zanesville to Wheeling being nearly seventy miles less than Pittsburg, by the most favorable route that has been suggested to the last named city, it must be obvious that the shorter and cheaper lines will be the first to be made, and equally so, that in the face of shorter and cheaper lines, it will not be easy to command the capital or find an adequate incentive to construct others, both larger and more expensive. No such expectation could be entertained, at least until the growth of the western country should indispensably require further improvements, even at a greater cost to supply its wants. The committee would also remark, without unnecessarily swelling this report with tables or details of distances, that by the proposed route to Wheeling, and thence by easy, practicable lines to Columbus, the distance thence to Baltimore would be considerably shorter than to Philadelphia by the way of Pittsburg. It is equally undeniable, that the river trade and travel, instead of working up the river ninety-six miles above Wheeling, and at so great a loss of time, would stop at the latter point, whence, in the average they could be conducted to Baltimore as soon as by the river they could be taken to Pittsburg. The committee entertain no doubt, that if the railroad should be completed to Wheeling, the trade and, if there be any, travel passing through the Ohio canals into the river between Pittsburg and Wheeling, would prefer dropping down to Wheeling, rather than encounter the delay of working up the stream to Pittsburg.

The committee are unwilling to quit this part of this subject, without calling the attention of the Board to the contrast which would be exhibited if, refusing to terminate their road at Wheeling, where they would engross the entire trade and travel without rivalry, if it were possible to force the western improvements and the contributions of the river to Pittsburg. At the latter point they would be in close and severe competition with the Central road to Philadelphia, for both passengers and tonnage at all seasons of the year, and of the fatal influence of such a competition upon the trade of this city and the income of the road, the committee need not stop to point out in detail. Its full extent will readily occur to an intelligent, impartial mind, who will take the trouble to reflect upon the subject. A single instance, however, may serve, in part, in illustration of the

mischief to which, in this connection, the committee have adverted. It is conclusively shown by the records of this company, and by those of the stage lines on the National road, that of the whole number of passengers coming from the Ohio by the road to Baltimore, at least *two thirds* are destined and proceed to Philadelphia and the north, without stopping in this city longer than to take a hurried meal. It then will be apparent, that if these and the expected increase should be forced to Pittsburg, they would naturally and unavoidably take the road to Philadelphia, where, by that line, they would arrive as soon and as cheap, as they could be brought to Baltimore, and in that way save the expense and time of travelling one hundred miles farther between the two cities.

It must be obvious, therefore, that, so far from increasing its travel under such circumstances, the Baltimore and Ohio railroad would lose at least two-thirds of that it now enjoys. If, on the other hand, our road should terminate at *Wheeling*, then allowing as an average of the year, fifteen hours to go by the river from *Wheeling* to *Pittsburg*, and it is believed to be less than the time actually consumed, the passenger by taking the railroad at *Wheeling* would arrive at *Baltimore* as soon as he could get to *Pittsburg*, and at *Baltimore* be within only one hundred instead of two hundred and thirty-seven miles of *Philadelphia*. He would have gained at least fifteen hours in time between *Wheeling* and *Philadelphia*, which would be more than sufficient to take him to *New York*! The same observation will apply, with proper allowance for time, to the trade and tonnage. It is obviously, therefore, the true policy of the company to arrest the trade and travel at *Wheeling*, instead of expending millions to force them to *Pittsburg*, to the fatal injury of the city, and the ruin of the road.

It would appear to the committee, therefore, that unless they have entirely mistaken the primary objects of the enterprise in which they are engaged, and greatly exaggerated the advantages of adopting a route free from competition with other cities, the expenditure of a much greater sum than the construction of the road to *Wheeling* will actually cost, would be fully warranted by the results to be expected from it. There would appear, however, to be a misapprehension of the actual cost of the route to *Wheeling*, as unaccountable as might be pointed out to have prevailed as to other parts of the subjects. It has been already shown, that the united energies of the Board, of the stockholders, and of the community have been for years exerted to terminate the road at a more southern point, for no greater advantage than, it is now seen, may be had at *Wheeling*, and that all interests would at any time have been satisfied with a terminus as low down as *Fishing creek*. Then, the actual cost of the road to *Fishing creek* with one track, is estimated by the engineer at the sum of \$5,240,250, and to *Parkersburg* \$6,690,000, and from neither point had we succeeded in reaching it, could we have counted upon any aid from *Wheeling*. The stockholders, however, at

their meeting on the 22d day of February last, authorized the acceptance of a law compelling the company to extend the road to *Wheeling* from the mouth of *Fishing creek*, with a substantial subscription from *Wheeling*, which would have swelled the entire cost of the road, by that route, to at least \$6,500,000.

Now the actual cost of the road to *Wheeling*, by the present law and arrangement with that city, according to estimates of the same engineer, will not exceed, with one track, \$5,900,000, and according to the estimate of another eminent engineer, will not be more than \$5,800,000; thus showing that the highest cost of the present route to *Wheeling* will be \$790,000 less than the road to *Parkersburg*, and \$600,000 less than the route preferred by the stockholders, to *Wheeling*, by the way of *Fishing creek*, and only \$659,750 more than the preferred route terminating at the mouth of *Fishing creek*!

But if the committee have succeeded in showing that all the advantages, and even more, as they believe they have done, are attainable by the route to *Wheeling* by the way of *Fish creek*, that could have been obtained from the route to the same point by the way of *Fishing creek*, then, by the route now recommended, the actual cost to the company will be at least \$600,000 less than by the former preferred route. Nor will it escape observation that, by taking the shorter route to *Wheeling*, by the way of *Fish creek*, instead of the longer and more expensive line by *Fishing creek*, the company have not only saved an actual outlay of \$600,000, but by receiving from *Wheeling* a contribution of \$500,000, and privileges supposed to be equal to \$50,000 more, the present proposed route to *Wheeling* will cost the company only \$109,750 more than they must have expended upon a route to *Fishing creek*, if they had made that their only terminus; from which, if the information now acquired can be relied upon, they could not have formed their western connection as certainly or as beneficially as they may from *Fish creek* and *Wheeling*.

It is to be added in this connection, that the cost of the proposed road, with one track, to *Wheeling*, is only \$900,000 more than the cost of the cheapest route to *Wheeling* through the State of Pennsylvania, under the old charter; and nearly \$700,000 less than the cost of that route added to the cost of the branch to *Pittsburg*, which the company consented to make for the privilege of terminating their main stem at *Wheeling*.

Without stopping here to institute a minute comparison between the route to *Wheeling* as now proposed, and that to *Pittsburg*, about the latter of which there is a material difference in the estimates of engineers, the committee content themselves with stating it as their opinion, from the best data in their power, that the actual cost of the road to *Wheeling* will not, under any circumstances, exceed that of the road to *Pittsburg* \$1,500,000; and if the lower estimates be found correct, or the cost of stocking a new road be taken into consideration, will most probably

lule exceed a million of dollars. Assuming the largest estimated difference, the committee are of opinion, that in escaping from the severe competition with the rival roads of Pennsylvania, in the advantage of engrossing the whole trade and travel of central and southern Ohio and the States farther west, without rival, and in the largely increased trade and travel sure to be brought upon the road at *Wheeling*, the company would receive an equivalent far more than quintuple any difference that will be found really to exist. The committee are, moreover, entirely persuaded that whatever might be expended upon a road to *Pittsburg*, would be given at most to equalize advantages between Baltimore and Philadelphia; whereas, by a terminus at *Wheeling*, they would engross the whole.

It has been no part of the duty of the committee to inquire into the means by which the road may be extended to the Ohio river, if the present law should be accepted. They are free to admit, that to raise the amount requisite for either will be a task of no light difficulty. They are to presume that this company and this community have not been engaged for twenty years in exertions to push their road to the best point on the Ohio river, without an earnest effort to accomplish the object; and that they will not now abandon the pursuit, when, for a sum less than that which in 1838 they undertook to procure, the right to finish the road is placed at the option. The committee are sensible, that whether the company should determine to make the road to *Wheeling* or to *Pittsburg*, neither could be accomplished without a liberal use of their credit; and they cannot doubt, that in aid of a road engrossing the unrivalled trade and travel, and general resources of the great west, they could use that credit to a greater extent and more efficiently, than for another of doubtful results, and doomed to struggle for any business whatever with other roads and other cities. Upon a road attracting the travel and trade of the west without competition, the committee cannot doubt that an immediate transportation, with a prospect of a large increase, of 400 passengers per day, in both directions, would be a reasonable estimate; and that number at \$10 per passenger, allowing the tonnage transportation to defray the expenses of working the road, would yield a net revenue of \$1,460,000 per annum, or nearly twelve per cent. upon the entire cost of the road from Baltimore to *Wheeling*. The committee do not deem it unreasonable to expect, therefore, that upon such a basis they would be able to invite capitalists to engage in the enterprise, and press it forward.

It has been shown, that besides the contribution from *Wheeling*, the actual cost of the road with one track, may be estimated at \$5,350,000. If the company should be successful, which, with the aid of a united community at home, and the co-operation of *Wheeling* in Virginia, they believe not improbable, and that commonwealth should make her usual contribution of 2-5 of the cost of the road in the State of Virginia, the bal-

ance would constitute a sum quite within the reasonable resources of the company. Even should that expectation fail, however, it would not be unreasonable to expect this community to co-operate, in the prosecution of an enterprise which, in the opinion of the committee, the more it is examined the stronger will its claims upon the cordial co-operation of this community appear.

The committee, therefore, believing that, under the present law and the arrangement concluded with *Wheeling*, the road may be prosecuted to the Ohio as advantageously as it could have been at any former period; and in all probability more so than if further time should be devoted to procure further grants from Virginia, have unanimously concurred in recommending the acceptance of the present law, and the ratification by this company of the agreement herewith submitted.

In conclusion, they propose, that the Board should convene the stockholders at the earliest practicable day, and recommend to their acceptance the recent act of the Virginia Legislature, and the ratification of the agreement with *Wheeling*.

T. PARKIN SCOTT,
J. W. PATTERSON,
SAM'L HOFFMAN,
THOMAS SWANN,
LOUIS McLANE.

To be continued.

Electric Telegraph.

We are indebted, says the London Mining Journal, to a correspondent for the following chronological history of the science of electricity—the discovery, and improvements made in it for the last 200 years, down to the magnificent and first successful adaptation of it to telegraphs, by Professor Morse, of the United States. No branch of experimental philosophy (our correspondent remarks) has been so much neglected as that of electricity; indeed, until the 17th century, little or nothing was known of it.—In the year

1600—Mr. Gilbert, of Colchester, published a treatise in Latin, of various experiments made by him; but his theory was very imperfect, though he increased the list of electric bodies, and also of substances, upon which electricity would act.

1630—Nicholas Caboeus, at Terrara, repeated the experiments made by Gilbert, and made some progress in adding to the list of electrics.

1670—Mr. Boyle made some discoveries which escaped the notice of his predecessors.

Otto Guericke, of Magdeburg, (inventor of the air-pump,) made some advances, and was the first to discover, that a body once attracted by an excited electric, was repelled by it, and not again attracted, until it had touched some other body.

Dr. Wall, about the same time, observed light and sound produced by rubbing pieces of amber with wool, and experienced a light shock.

1675—Sir Isaac Newton gave to the Royal Society an account of similar experiments made by him.

1709—Mr. Hawksbee distinguished himself by discoveries in electrical attraction, and repulsion of electric light. After his death, little was done for twenty years.

1728—Mr. Stephen Grey, a pensioner at the Charter House, and his friend, Mr. Wheeler, made a great variety of experiments, and discovered that electricity might be communicated from one body to another, even without those bodies being in contact.

1733—Du Fay, of France, repeated the experiments of Mr. Grey; but added little or nothing of his own.

1734—Mr. Grey made experiments upon iron rods, from whence came the term "metallic conductors."

1739—Dr. Desaguliers made several experiments.

1742—Mr. Boze, Professor at Wittemburg, and other Germans, made experiments. Mr. Winckler used a cushion, instead of the hand, to excite the globe. Mr. P. Gordon, a Benedictine monk, and professor of philosophy at Erford, was the first to use the cylinder, instead of the globe. With his machine, he conveyed the fluid along wires 200 ells in length, and killed birds. Dr. Ludolf, of Berlin, in 1744, made some experiments. Mr. Boze fired gunpowder by electricity. Mr. Gordon made the electric star. Mr. Winckler, by the agency of electricity, made a wheel to move.

1745—Mr. Collingson sent to Philadelphia an account with these experiments, with a tube, and directions how to use it.

Franklin, with some of his friends, immediately engaged in a course of experiments, the results of which are well known. He was enabled to make a number of important discoveries—proposing theories, accounting for various phenomena, which have been universally adopted, and bid fair to endure for ages.

Several experiments were made in Holland and Germany.

Dr. Miles, of England, fired phosphorus by the application of the excited tube itself, without the intervention of a conductor.

Dr. Watson fired air, made inflammable by a chemical process, and discharged a musket by the electric fluid. He made many other experiments.

Mr. Cuneus, of Leyden, made the discovery of the famous "Leyden phial;" and Mr. Von Kleist, dean of the cathedral of Camin, is said to have discovered it about the same time. By this discovery, electricity could be accumulated, and severe shocks given.

1746—M. Gralath gave a shock to 20 persons at once, and at a considerable distance from the machine. He constructed the electrical battery, by charging several phials at once. Mr. Winckler and Mr. Monnier, in France, transmitted the electric fluid through several feet of water, as a part of the circuit.

Mr. Nollet, in France, killed birds and fish by the discharge of the Leyden jars. Improvements were made by Dr. Watson and others in the Leyden phial, by coating the inside and outside of it with tin foil. The Abbe Nollet gave a shock to 180 of the guards, in the king's presence, and to the whole community of the grand convent of the Carthusians, in Paris, by means of wires between them, forming a line of 3,600 feet in length. The same experiment was tried in France, through a circuit of persons holding wires between them for 2½ miles. In another experiment, the water in the basin of the Tuilleries was made a part of the circuit.

Mr. Monnier, the younger, to discover the velocity of electricity, discharged the Leyden phial through an iron wire 4,000 feet in length, and another of 1,319 feet; but could not discover the time required for its passage.

1747—Franklin communicated his observations, in a series of letters, to his friend Collinson, and explained in a satisfactory manner the phenomena of the Leyden phial.

Dr. Watson, and others, conveyed the electric fluid across the Thames at Westminster bridge, making the width of the river a part of the circuit. He proved, that the ground also conducted the fluid, by an experiment with a wire 150 feet long, supported upon baked sticks, using the ground as half of the circuit. In another experiment, he made the dry ground a part of the circuit for a mile, and found it to conduct equally as well as water. The transmission of the electric fluid was instantaneous.

Mr. Ellicott constructed an electrometer for measuring the quantity of electricity; and Mr. Maimbury, of Edinburgh, electrified two myrtle trees in the month of October, and they put forth small branches and blossoms sooner than those which had not been electrified. The same experiment was tried upon seeds sown in garden pots, with the same success. Mr. Jallibert, Mr. Boze, and the Abbe Menon, at Angers, tried the same experiment upon plants, by electrifying bottles in which they were growing. They proved that electrified plants always grew faster, and had finer stems, leaves, and flowers, than those which were not electrified.

1748—Franklin and his friends held an electrical feast on the banks of the Schuylkill, near Philadelphia, which was amusing as well as scientific. He gives an account of it to his friend Collinson in these words:—"Chagrined a little, that we have hitherto been able to produce nothing in this way of use to mankind; and the hot weather coming on, when electrical experiments are not so agreeable, it is proposed to put an end to them for this season—somewhat humorously, in a party of pleasure, on the banks of the Schuylkill. Spirits, at

the same time, are to be fired by a spark sent from side to side through the river, without any other conductor than the water; an experiment which we some time since performed, to the amazement of many. A turkey is to be killed for our dinner by the electric shock, and roasted by the electrical jack, before a fire kindled by the electrified bottle; when the healths of all the famous electricians of England, Holland, France, and Germany, are to be drunk in electrified bumpers, under a discharge of guns from the electrical battery."

1749—Franklin first suggested his idea of explaining the phenomena of thunder-gusts, and of the *aurora borealis*, upon electrical principles; and in

1752—He completed his grand discovery, by experiments. He constructed rods, and brought the lightning into his house to ascertain if it were of the positive or negative kind. He succeeded in the experiment for the first time in April, 1753; when it appeared, that the electricity was negative. On the 6th of June, he met with a cloud electrified positively. His discoveries roused the attention of all Europe, and many distinguished electricians repeated them with success.

Towards the end of the 18th century, the science was extended by numerous and useful experiments.

1787—Mr. Lomond, of France, invented the first electric telegraph of which we have any account. He communicated with a person in a neighboring chamber, by means of electricity; but it does not appear that it was used on extended lines.

1794—Reizen made use of the electric spark for telegraphic purposes, but never tested to any extent.

1798—Dr. Salva, of Madrid, made a similar telegraph to that of Reizen. No description of his plans have been seen, and probably were never given to the public.

Galvani, in 1790, and Volta, in 1800, made, as is well known, many important discoveries.

1809—Samuel Thomas Soemmering invented his voltaic electric telegraph.

1816—Bonald invented an electrical telegraph, and tried it at his house, Hammersmith.

1832—Professor Morse was the inventor of the electro magnetic telegraph, and the first really practicable telegraph on the electric principle. All the telegraphs in Europe are invented subsequently.

1833—The Baron Schilling, of Russia, constructed an electric telegraph, which was received with approbation by the emperor, who desired it established on a larger scale; but the death of the baron prevented it.

Counsellor Gauss and Professor William Weber constructed one.

1836—Taquin and Ettieyhausen made experiments with a telegraphic line over two streets in Vienna.

1837—Alfred Vail invented an electro-magnetic printing telegraph.

Wheatstone made an electric needle telegraph.

Steinheil, (Dr.) of Munich, erected between that city and Bogenhansen, a magneto electric telegraph. In the account he gives of his own telegraph, he says, that Belancourt established, in 1798, a communication from Madrid to Aranjuez, (26 miles,) by means of a wire, through which a Leyden jar used to be discharged, which was intended to be used as a telegraphic signal.

Masson, professor of philosophy, at Caen, (France,) made trial of an electric needle telegraph, at the college of that city, for a distance of about 600 yards. He has since endeavored to simplify and improve his apparatus.

1837—Davy's needle and lamp telegraph.

1838—Mr. Amyot proposed in Paris to construct an electric telegraph.

Edward Davy—electric telegraph.

1840—Alexander Bain—electric printing telegraph.

1841—Wheatstone's rotating disc telegraph.

All the telegraphs—from Morse to Wheatstone—have several wires and needles; but the latest invention of House, with Jacob Brett's improvement, is indisputably the best of any yet discovered, and is the very perfection of a really printing telegraph, which, with one wire, conveys the letters themselves; and has also this immense advantage over all others—as the communication can be made without the intervention of a third person—that is to say, the parties themselves can carry on their own correspondence.

Lehigh Navigation Company.

We continue in this number of the Journal, the report of the managers of this company—giving their exhibit of its condition.

Summary of the Interest Account of the Lehigh Coal and Navigation Company, for the year 1846.

To charges to interest incidental to current business.....	\$10,592 98
To interest on judgments obtained prior to the general mortgage.....	3,008 20
To interest on mortgage loan, carried to the credit of the accounts of individuals taking coal.....	52,901 76
To common loan interest prior to Oct. 1, 1842, for which, under agreement, certificates of mortgage loan were issued	1,314 09
To purchase of common loan interest, reconvertible into cash if required.	58,935 23
To interest set off by certain holders of common loan against ground and water rents due by them to the company. The legal right of set off in these cases being sustained by opinion of company's counsel, the said interest claims were allowed in settlement of said rents.....	1,084 10
To interest account for 1847, for balance of interest due and unpaid, December 31, 1846, carried to account for ensuing year, viz:	
Arrears of int. on mortgage loan.....	\$12,009 67
Arrears of int. on common loan.....	891,198 04
	903,207 71
	\$1,031,044 07

By interest of account of 1845, for balance of interest unpaid December 31, 1845	\$757,161 57
By interest received in 1846	3,278 89
By balance carried to profit and loss account, January 1, 1847	270,603 61

*Profit and Loss Account of the Lehigh Coal
and Navigation Company, for the year
1846.*

Balance against profit and loss, January 1, 1847.....	\$37,976 83
Interest account for the year 1846.....	\$270,603 61
Repairs of Lehigh and Sus- quehanna railroad.....	4,987 18
Repairs of navigation.....	68,981 94
	<hr/>
	343,872 73
Balance carried down to the credit of profit and loss, January 1, 1847.	106,154 53
	<hr/>
Discount on debt extinguished.....	\$488,004 09
Ground rents, water rents, etc.....	24,191 17
Net profit on coal sold in 1846.....	198,131 88
Net tolls for 1846.....	232,671 60
	<hr/>
	\$488,044 09

Balance brought down to the credit of
profit and loss, January 1, 1847. \$106,154 53

The following exhibits a comparative view of the profits in 1843, 1844, 1845, and 1846, on the items of coal and tolls, and the amount of interest which fell due in each of those years:—

ON COAL AND TOLLS.			
1843.	1844.	1845.	1846.
218,498 51	289,711 45	337,939 70	430,803 48
INTEREST.			
304,606 94	298,197 85	278,923 47	270,603 61

Summary for 1846

Statement for 1913.

Excess over interest and repairs.....\$144,131 36
Being an improvement, compared with the result
of 1945, of \$88,646 51.

*Comparative Indebtedness of the Lehigh Coal
and Navigation Company, January 1,
1846, and January 1, 1847.*

	Jan. 1, 1946	Jan. 1, 1947	Increase,	Decrease,
Mortgage loan.....				
Common loans.....	\$921,760 69	\$983,074 78	\$1,314,09	
Floating debt.....	4,644,481 78	4,611,996 94	32,484 8	
Total.....	4,954,457 84	4,882,971 91	101,485 9	
Arrears of interest, viz.				
On common loan.....				
On mortgage loan.....	737,525 95	591,198 04	153,672 09	
Total.....	735,635 92	12,009 67	7,625 9	
Unpaid dividends.....	757,161 57	983,207 71	146,046 14	
SUMMARY.				
Loans	4,644,481 78	4,611,996 94	32,484 8	
Floating debt.....	308,976 00	540,974 97	62,001 0	
Arrears of interest.....	757,161 57	983,207 71	146,046 14	
Unpaid dividends.....	798 70	798 70		
Total.....	\$5,712,418 11	\$5,766,978 32		

The increase of \$1,314 09, in the mortgage loan above mentioned, arises from issues of said loan for that amount of interest, which accrued prior to October 1, 1842, on common loan.

The decrease of \$33,798 93, in the common loan above mentioned, is caused by the payment of the remaining judgments obtained on certificates of said loan prior to the execution of the general mortgage, 7th March, 1842.

NOTE.—The only loan of the company convertible into capital stock, is a portion, viz: \$196,509 39, of the mortgage loan.

*Summary of the Liabilities and Assets of the
Lehigh Coal and Navigation Company—
Jan. 1, 1841, to Jan. 1, 1847.*

LIABILITIES.	
Capital stock	
Common loans	
" " London bonds	
Mortgage loan	
Floating debt	
Unpaid dividends	
Arrears of interest	
Contingent fund	
Profit and loss	
ASSETS.—Canal and river improvements	
Lehigh and Susquehanna railroad	
Real estate, cost of coal mine and other lands, railroads to the Old and Room Run mines, and other improvements, wharves and landings at Philadelphia, etc.	
Movable effects, debts due the company, bonds and mortgages, and other securities	
Cash on hand	
Balance against profit and loss account	

Jan. 1, 1841.	Jan. 1, 1842.	Jan. 1, 1843.	Jan. 1, 1844.	Jan. 1, 1845.	Jan. 1, 1846.	Jan. 1, 1847.
\$1,503,550 01	\$1,503,550 01	\$1,503,550 00	\$1,503,550 00	\$1,503,550 00	\$1,503,550 00	\$1,503,550 00
503,550 91	503,550 91	503,550 00	503,550 00	503,550 00	503,550 00	503,550 00
564,800 79	564,800 79	564,800 00	564,800 00	564,800 00	564,800 00	564,800 00
594,323 67	594,323 67	592,991 25	592,991 25	592,991 25	592,991 25	592,991 25
521,821 77	521,821 77	448,029 34	448,029 34	448,029 34	448,029 34	448,029 34
798 70	798 70	798 70	798 70	798 70	798 70	798 70
56,286 81	56,286 81	147,032 50	147,032 50	147,032 50	147,032 50	147,032 50
208,210 86	208,210 86	85,401 41	85,401 41	4,208 71	4,208 71	4,208 71
6,498,678 73	6,498,678 73	6,705,524 10	6,936,462 92	7,134,246 68	7,215,968 11	7,306,688 85
773,648 85	773,648 85	4,123,827 46	4,415,273 71	4,455,066 31	4,455,000 00	4,455,000 00
1,153,399 91	1,153,399 91	1,238,457 58	1,282,233 09	1,326,701 80	1,342,206 72	1,360,923 75
641,926 45	641,926 45	649,707 66	657,610 23	718,803 14	831,684 39	1,006,051 71
610,560 41	610,560 41	497,125 99	489,598 36	534,934 06	489,666 01	499,891 81
88,476 32	88,476 32	32,398 92	2,486 79	5,346 00	59,444 16	44,815 58
286,062 89	286,062 89	6,488,678 73	6,795,524 10	6,859,721 42	7,177,991 28	7,366,682 85
6,936,462 75	6,936,462 75	93,461 68	—	37,766 83	—	7,766,988 75

STOCKHOLDER'S MEETING.

At the stated annual meeting of the stock-holders of the LEHIGH COAL AND NAVIGATION COMPANY, held May 4th, 1847, THOMAS P. COPE, Chairman:

The Board of managers submitted a report and other documents, detailing the transactions of the year 1846, and exhibiting the condition of the company's affairs at the close of that year, and the same having been read, the following resolution was adopted, viz :

Resolved, That the report and accompanying documents just read, be approved, and that the Board of managers be requested to publish such portions thereof, as may be deemed expedient.

The following resolution was also adopted, viz:

Resolved, That this meeting hereby expresses its decided approval of the management of the affairs of the company, during the past year.

THOMAS P. COPE, *Chairman*
EDWIN WALTER, *Secretary.*

Improved Method of Tempering Tools.—Mr. Alfred V. Newton, of the Patent Office, Chancery Lane, has taken out a patent (being a communication) for an apparatus for hardening and tempering edge tools. For heating axes or other similar articles, a heating furnace is constructed in the form of a vertical cylinder, the exterior made of sheet iron lined with fire brick 4 ft. 8 in. diameter, or of such outside diameter as to give it an inside one of 4 ft. and 3 ft. high. In the interior of this cylinder, several fire chambers are formed, usually four; the inner wall of each fire chamber is 18 in. long, 4 in. from front to back, and about 4 in. in depth, forming, in the whole, a circle of 3 ft. 4 in. diameter; under each there are grate bars, and air is supplied through a pipe, connected with a blowing apparatus. A circular table of cast iron, 3 ft. 4 in. diameter, is made to revolve slowly on a level with the upper part of the said chambers; this table is sustained on a central shaft, which passes down through the furnace, and has its bearing in a step below it; a pulley keyed on to it serves to communicate rotary motion to the table. When the axes or other articles are to be heated, they are placed upon the table with their bits or steeled parts projecting so far over its edge as to bring them directly over the centre of the fire, and the table is kept slowly revolving during the whole time of heating. When duly heated, they are ready for the process of hardening. The hardening bath consists of a circular vat of salt water; within the tub or vat, a little above the surface of the liquid, is a wheel mounted horizontally, with a number of hooks around the periphery, upon which the axes or other articles are suspended; the height of the hooks from the surface of the liquid is such as to allow the steeled part only to be immersed; as soon as the hardening is effected, the articles are removed from the hooks, and cooled by dipping in cold water. With the best cast steel, a temperature of 510° Fahr. has been found to produce a good result in hardening in about 45 minutes.

LOCOMOTIVE ENGINES.

The following description, and illustration, of "Galloway's Improvements in Locomotive Engines," was prepared for the first number for June of the Railroad Journal; but while the illustrations were in the hands of the engraver, the copy was mislaid, and thus the article has been delayed.

The mode of obtaining adhesion is so different from any now in use, that it may be well for it to be understood.

We find in the same number of the Civil Engineer and Architects Journal, a description, with illustrations, of Stephenson & Howe's three cylinder engine, which we shall endeavor to give in a subsequent number.

Fig. 1.

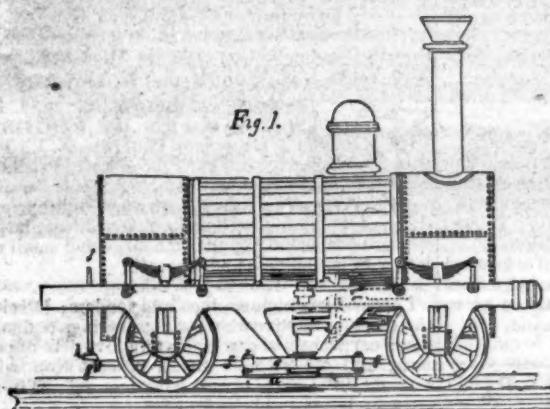


Fig. 2.

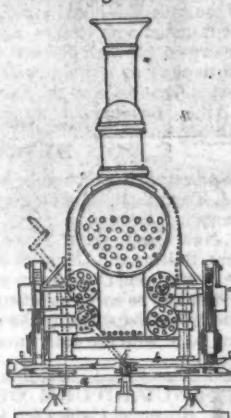
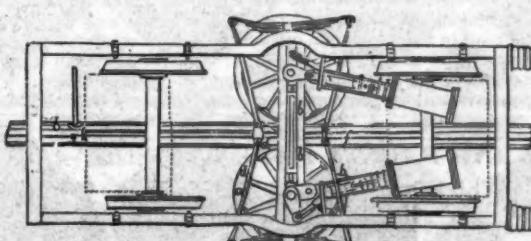


Fig. 3.



Elijah Galloway, of Buckingham street, Strand, Middlesex, engineer, for "Improvements in Locomotive Engines."—Granted April 18; Enrolled October 18, 1846.

In constructing locomotive engines for railways, it has heretofore been usual to give motion to two or more of the wheels which carry the engine and it has been proposed to apply a central rail to a railway and to employ rollers on either side, pressed towards each other by a hand lever, and motion was communicated to one of them from the axis of two of the carrying wheels. Now one of the objects of this invention is no longer to use the carrying wheels as driving wheels. Another object of this invention is to apply the power employed to both of two wheels placed on either side of a central rail, and to obtain the requisite holding or bite on the central rail by causing such two driving wheels to be pressed towards each other, and consequently against the rail, by means of springs and apparatus suitably arranged for causing the two driving wheels (on each side of the central rail) to press the rail more or less, according as more or less holding to the rail is required from time to time.

The driving wheels of the locomotive engine, shown in the engraving, are applied horizontally on each side of a centre or middle rail, and are pressed towards each other by means of springs, the pressure of which can be regulated by adjusting screws, or by any other convenient means, so that they may be pressed towards each other with any degree of force the springs will admit of. The pressure, therefore, of these wheels is exerted simultaneously on each side of the middle rail. By such an arrangement it will be evident that the bite or adhesion necessary to propel the train is independent of the weight of the engine, and as the adhesion can be increased or diminished exactly according to the amount of force with which the driving wheels are pressed against the rail, this system obviates the slipping of the driving or propelling wheels upon the rail, heretofore consequent on making the driving wheels also carrying wheels in a locomotive engine.

Fig. 1, is a side elevation, and Fig. 2, a cross section of a locomotive engine, and Fig. 3, is a plan, with boiler and such parts omitted as would interfere with the view of the same. *a, a*, are the driving wheels worked by cranked axles. Each wheel is worked by a pair of cylinders, the one above the other, the pistons of which operate on the axis in much the same way as the engines of the present locomotive. The slide valves may be at either side of the cylinders, and worked by eccentrics placed on the axes. To secure the necessary bite on each side of the middle rail, the lower bearings of the axes are at

liberty to move for a limited distance horizontally, in mortices or slots for that purpose in the horizontal frame, *b, b*; these bearings are pressed towards each other by the springs *c, c*. To effect the desired adjustment of the pressure of the springs, the rods are connected to the centre pieces, *e, e*, one of which has a right and the other a left handed female screw through it, the threads of which fit the right and left handed screws on the rod, *f, f*. On one end of *f, f*, there is a bevel wheel *g*, working into another bevel wheel *h*, the axis of which is carried up in front of the fire box, as seen dotted in Fig. 3, and has a handle accessible to the engineer, so that the pressure of the springs on the driving axes, and consequently the bite of the driving wheels on the middle rail, can be adjusted at pleasure when the engine is in motion.

The claim is for the mode of giving motion to locomotive engines, whereby two actuated wheels, *a, a*, are used; and the causing of two wheels to be pressed towards each other and to a central rail.

NOTICE TO CONTRACTORS.—ANDROS COGGIN AND KENNEBEC RAILROAD. Proposals will be received at the Railroad Office, in Lewiston, until the 17th of August next, inclusive, for the Grading and Masonry of the 2d Division of this Road, extending from Green to Belgrade, near Snow's Pond, about 20 miles.

Profiles will be ready for examination on and after the 10th of August, and all necessary information will be given, either at this office, or upon application to the resident engineers on the line of the road.

Satisfactory bonds with sureties shall be given by the bidders, if required.

On the 16th of August, the Engineer will be prepared to accompany Contractors over the line of the road, commencing at the eastern end of the Division in Belgrade.

HOBART CLARK, Agent A. & K. R. R.
EDWARD APPLETON, Engineer.

Railroad Office, Lewiston,
July 13, 1847.

31

A TLANTIC AND ST. LAWRENCE RAIL-road.—Notice to Contractors.—Proposals in writing will be received at the office of the Atlantic and St. Lawrence Railroad Company, in the city of Portland, until Tuesday, the tenth day of August next, inclusive, at sunset, for the grading, masonry, and bridging of that portion of their road extending from the termination of the second division near the hotel road in Danville, to a place in the vicinity of Norway and Paris cape, a distance of about 20 miles.

Maps, profiles, and specifications will be ready for examination on and after the second day of August next, at the Engineer's office in Portland, where all necessary information will be given.

The company will require, as one of the stipulations of the contract, that the heavier work on any section, shall be first attended to, so that the heavier and lighter work may be completed at nearly the same time.

Persons unknown to the officers of the company must accompany their bids with satisfactory evidence of their ability to execute the work. In all cases good and sufficient bonds with two or more sureties will be required for the faithful performance and fulfilment of the contract.

W. P. PREBLE, President.
Portland, June 30, 1847.

328

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Reds, etc., etc.

PETER COOPER 17 Burling Slip.
New York.

1y10

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.

SHIPPING & COMMISSION AGENTS

FOR PASSENGERS, SPECIE, GOODS, PARCELS, etc.

To all parts of the United States, North and South America, West Indies, India, [overland or otherwise,] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agent at Cowes for the Ocean Steam Navigation of New York.

Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advancements on consignments to their address.

July 31—3m

ROBERT GRACIE.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES
From 4 inches to $\frac{1}{2}$ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T. L., and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAP-WELDED WROUGHT IRON TUBES
for Tubular Boilers, from $1\frac{1}{4}$ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom.

280

SPRING STEEL FOR LOCOMOTIVES,
Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from $1\frac{1}{4}$ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent,
Albany Iron and Nail Works,

A. & G. MALSTON & CO., NO. 4
A. South Front St., Philadelphia, Pa.
Have now on hand, for sale, Railroad Iron, viz.: 180 tons $2\frac{1}{2} \times \frac{1}{4}$ inch Flat Punched Rails; 20 ft. long.
 $25^{\prime\prime}$ $2\frac{1}{2} \times \frac{1}{4}$ " Flange Iron Rails.
 $75^{\prime\prime}$ $1 \times \frac{1}{4}$ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures.

111

THE SUBSCRIBERS ARE PREPARED TO
execute orders at their Phoenix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
No. 79 Water St., New York.

PATENT RAILROAD, SHIP AND BOAT SPIKES. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janvier, Baltimore; Degrand & Smith, Boston.

* * * Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

j45

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing

Ship Rigging, Mines, Cranes, Tillers etc., by

JOHN A. ROEBLING, Civil Engineer,

Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

2v19 ly

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN
Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrestor recently patented by the undersigned.

Our improved Spark Arrestor have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney, through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. McKee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

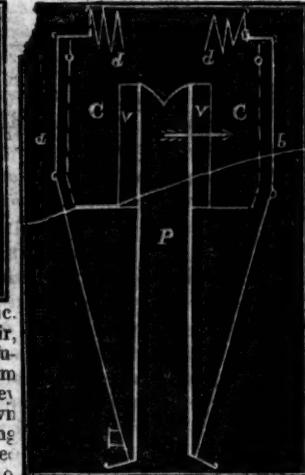
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckley & Drury, Boston, will be promptly executed.

FRENCH & BAIRD.

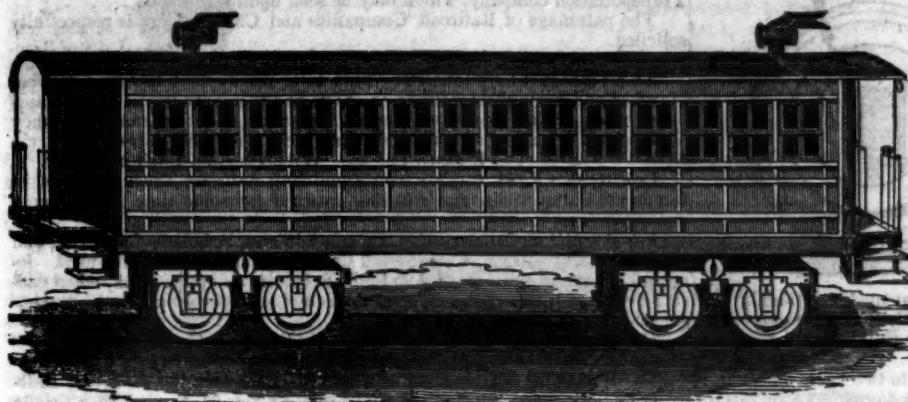
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

* * * The letters in the figures refer to the article given in the Journal of June, 1844.

j45



DAVENPORT & BRIDGES' CAR WORKS, CAMBRIDGEPORT, MASS.

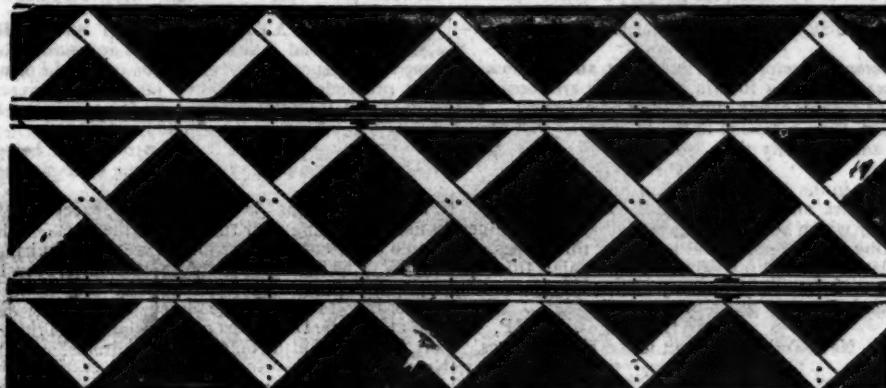


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes.

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFUL- ly invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes

but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.		
4,224 Timbers, 11 ft. long, 3 x 6 inches =	68,696 ft. b.m., at \$10 =	\$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. =	4,403 ft. b.m., at \$13 =	57 24
13,000 Spikes = 2,250 lbs. at 4¢ cts =	101 25	600 00
Workmanship free of patent charge.....		

Cost of one mile including the laying of the Rail..... \$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.

Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia. 33tf

LAP-WELDED WROUGHT IRON TUBES

FOR TUBULAR BOILERS, FROM 1 1-4 TO 6 INCHES DIAMETER, and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

ly25 28 Platt street, New York.

RAILROAD IRON. MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
Dec. 25, 1y*

Maryland.

ENGINEERS' AND SURVEYORS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.



No 23 Pear street,
ly10 near Third,
below Walnut,
Philadelphia.

THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY. West Troy, May 12, 1847.

ly21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniata Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
Vine St. Wharf, Philadelphia.

RAILROAD IRON.—THE "MONTOUR" Iron Company, Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., Agents. ly48 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floms, and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

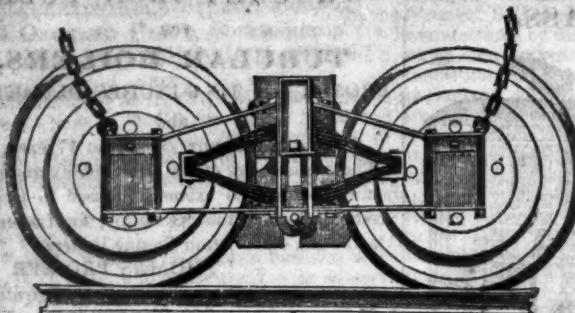
For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,

143 Front street, New York.

Orders for the above will be received and promptly attended to at this office.

33tf

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East

river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846.

W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed.] WILLIAM ROSE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845.

[Signed.] G. A. NICOLL,

Sup't Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed.] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, { [Signed.] JOHN LEACH,

Jamaica November 12, 1845. } 1y19 Sup't Motive Power

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.— for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,

75 Broad street, New York, sole agent in the United States.

*Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with
Hemp Ropes and Iron Chains of the same strength.—October, 1841.*

WIRE ROPES.			HEMPEN ROPES.			CHAINS.			STRENGTH	
Wire gauge number.	Circumference of rope.	Weight per fathom.	Circumference of rope.	Weight per fathom.	Weight per fathom.	Diameter of iron.	Tons.			
	INCH.	LBS. OZ.	INCH.	LBS. OZ.	LBS.	INCH.				
11	4 $\frac{1}{2}$	13 5	10	24 -	50	15-16	20			
13	3 $\frac{1}{2}$	8 3	8 $\frac{1}{2}$	16 -	27	11-16	13 $\frac{1}{2}$			
14	3 $\frac{1}{2}$	6 11	7 $\frac{1}{2}$	12 8	17	9-16	10 $\frac{1}{2}$			
15	2 $\frac{1}{2}$	5 2	6 $\frac{1}{2}$	9 4	13 $\frac{1}{2}$	1-2	7 $\frac{1}{2}$			
16	2 $\frac{1}{2}$	4 3	6	8 8	10 $\frac{1}{2}$	7-16	7			

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELЛИCOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.

THE SUBSCRIBERS, AGENTS FOR the sale of
Codorus,
Glendon,
Spring Mill and
Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] Philadelphia, Pa.

RAILWAY IRON.—THE BEST QUALITY of English Heavy H Rails—60 lbs. to the yard—now in store, landing from the vessel, and on ship board to arrive, for sale on most favorable terms by

DAVIS, BROOKS & CO.,
Jan. 2. [1y4] 68 Broad St., New York.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

G. A. NICOLLS,

Reading, Pa.

ja45

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents,
No. 139 Greenwich, corner of Cedar street.
June 1, 1847.

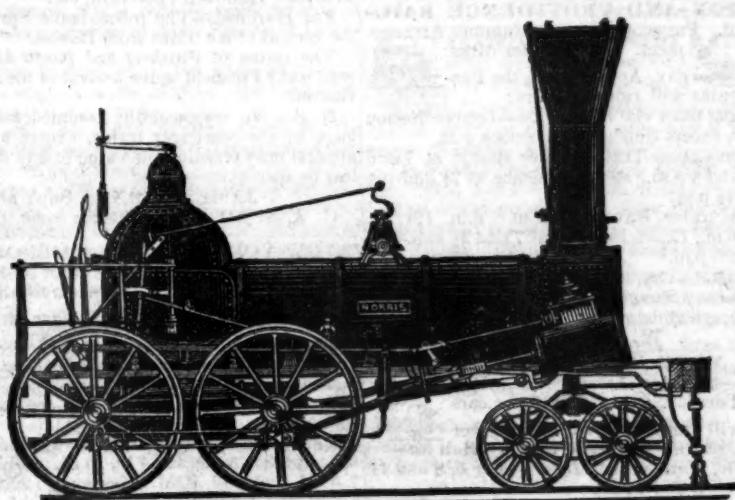
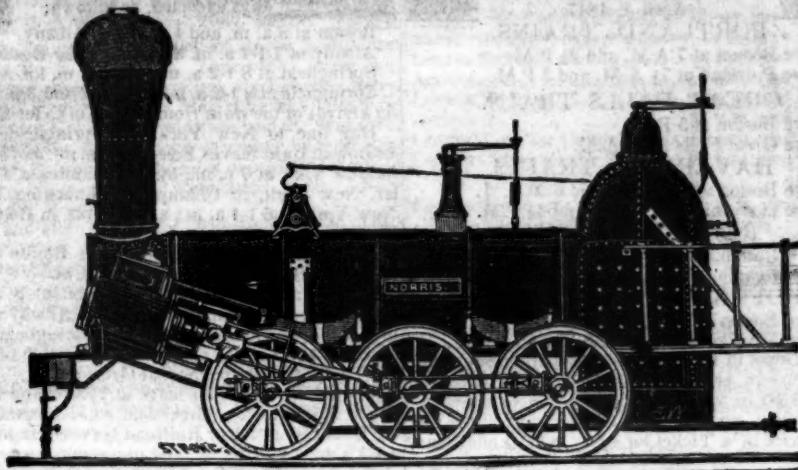
10f

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the linear yard, which they offer for sale on favorable terms, also, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail.

46f

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class 1,	15 inches Diameter of Cylinder, \times 20 inches Stroke.
" 2,	14 " " \times 24 " "
" 3,	14½ " " \times 20 " "
" 4,	12½ " " \times 20 " "
" 5,	11½ " " \times 20 " "
" 6,	10½ " " \times 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavitt & Co. New York.

J. Triplett & Son, Richmond, Va.

J. R. Anderson, Tredegar Iron Works, Richmond, Va.

J. Patton, Jr. Philadelphia, Pa.

J. M. L. & W. H. Scovill, Waterbury, Conn.

N. E. Screw Co. Providence, R. I.

Eagle Screw Co.

William Parker, Supt. Bost. and Worcester R. R. New Jersey Malleable Iron Co., Newark, N. J.

Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearings of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by

A. & G. RALSTON

Mar. 20th 4 South Front St., Philadelphia.

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe, with lathes, work benches, Work shop, 86x36 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45 feet two stories high, with a shed part 45x20 feet containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia.

j45

TO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufacture and for sale by

MORRIS TASKER & MORRIS, Warehouse S. E. corner 3d and Walnut Sts., Philadelphia.

11f

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly indestructible. The prices are less than those of iron or lead. We also manufacture Basins and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28f

J. BALL & CO.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p.m., on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent.

35

CONCORD RAILROAD.—PASSENGER TRAINS in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than \$50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.

26f N. G. UPHAM, Sup't.

NORWICH AND WORCESTER RAIL-road. Summer Arrangement. Change of Hours. Commencing on

Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a.m., and 4 1/2 p.m. Leave Worcester, at 8 1/2 a.m., and 4 1/2 p.m.

17 The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2 1/2 p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the steamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6 1/2 p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a.m. Special contracts will be made for cargoes, or large quantities of freight, on application to the superintendent.

Fares are less when paid for Tickets than when paid in the Cars. 33f J. W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday

May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1/2 a.m. for Farmingdale, 1 1/2 p.m. for Greenport, at 4 p.m. for Farmingdale. Leave Farmingdale at 7 a.m. for Brooklyn, 12 m. do, at 3 1/4 do. do.

Leave Greenport at 8 1/2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do, at 4 1/2 p.m. do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1/2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1/2 a.m. for Farmingdale; leave Farmingdale at 4 p.m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.

25f DAVID S. IVES, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East. SUMMER ARRANGEMENT,

April 1, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2 1/2 P.M.
Leave Portland at 7 1/2 A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 5 P.M.

Leave Great Falls at 6 1/2 A.M.

HAVERHILL TRAINS.

Leave Boston at 11 1/2 A.M. and 6 20 P.M.
Leave Haverhill at 6 1/2 A.M. and 4 1/2 P.M.

READING TRAINS.

Leave Boston at 8 1/2 A.M. and 8 1/2 P.M.

Leave Reading at 6 A.M. and 1 1/2 P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7 1/2, 11 1/2 A.M., 2 1/2, 5 1/2, 7 P.M.
Leave Medford at 6 1/2, 8 A.M., 1 1/2, 4 1/2, 6 P.M.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above \$50 in value, and that personal, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every \$500 additional value.

1y31

CHAS. MINOT, Sup't.

BOSTON AND PROVIDENCE RAIL-road. Passenger Notice. Summer Arrangement. On and after Mon-

day, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10 1/2 a.m. and 4 p.m., and Providence at 7 1/2 and 10 1/2 a.m. and 4 1/2 p.m.

Dedham trains, leave Boston at 8 a.m., 12 1/2, 3 1/2, 6 1/2 and 9 p.m., Leave Dedham at 7 and 9 1/2 a.m. and 2 1/2, 5 1/2 and 8 p.m.

Stoughton trains, leave Boston at 11 1/2 a.m. and 5 1/2 p.m. Leave Stoughton at 7 10 a.m. and 3 1/2 p.m.

All baggage at the risk of the owners thereof.

25f W. RAYMOND LEE, Sup't.

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after

Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisania at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m.—Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3,

4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m. and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9 1/2 p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m., 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

24f Fare from New York to Croton Falls and Somers

\$1, to Mechanicville 87 1/2c., to Newcastle 75c., to Pleasantville 62 1/2c., to White Plains 50c.

25f

ESTERN RAILROAD.—ON AND AFTER Monday, April 5, 1847, the passenger trains will leave daily, Sunday days excepted, as follows:

Boston at 8 a.m. and 4 p.m. for Albany.

Albany at 7 1/4 a.m. and 5 p.m. for Boston.

Springfield at 8 1/2 a.m. and 1 p.m. for Albany.

Springfield at 8 1/2 a.m. and 1 1/2 and 3 p.m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a.m., and arrives in New York at 7 p.m., by the steamboats Traveler, New York, or Champion. Returning, leaves New York at 6 1/4 a.m., and arrives in Boston at 7 p.m.

Night line to New York.—Leaves Boston at 4 p.m., and arrives in New York at 5 a.m.

Albany and Troy.—Leaves Boston at 8 a.m., Springfield at 1 p.m., and arrive in Albany at 6 p.m. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1/2, and arrive in Albany at 1 1/2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7 1/2 a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1/4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.

C. A. SEAD, Agent, 27 State street, Boston.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily,

(except Sunday,) leave New

York from the foot of Duane St at 7 o'clock, A.M. and at 4 o'clock, P.M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A.M. and 4 15, P.M.; Middletown at 7 A.M. and 4 40, P.M.; Goshen at 7 22, A.M. and 5 3, P.M.; Chester at 7 35, A.M. and 5 18, P.M.

Fare between New York and Otisville, \$1 50; 10¢ fare in proportion.

For MILK—Leave Otisville at 5 1/2 o'clock, morning and evening.

For FREIGHT—The barges "Samuel Marsh and Henry Soddy, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P.M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P.M.

Freight for New York will be taken by the trains leaving Otisville at 10 1/2 o'clock, A.M.; Middletown at 11 1/2, A.M.; Goshen at 12 1/2, P.M.; Chester at 1 o'clock, P.M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24f H. C. SEYMOUR, Sup't.

GRAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans.

The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4 1/2 P.M., Philadelphia at 10 P.M., and Baltimore at 6 1/2 A.M., proceed without delay at any point, by this line, reaching Richmond in eleven, Petersburg in thirteen and a half hours, and Charleston, S. C., in two days from Baltimore.

Fare from Baltimore to Charleston.....\$21 00

" " " Richmond.....6 60

For Tickets, or further information, apply at the Southern Ticket Office, adjoining the Washington Railroad Office, Pratt street, Baltimore, to

1y14 STOCTON & FALLS, Agents.

LITTLE MIAMI RAILROAD—OPEN TO SPRINGFIELD.—Distance 84 miles connecting at Xiaia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City, via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columbus, Delaware, and the Mansfield and Sandusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon....\$1 00
" " Xenia.....1 50
" " Springfield..2 00
" " Columbus...4 00
" " Sandusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every \$500 in value over that amount.

The 1½ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.
47tf W. H. CLEMENT, Sup't.

PATERSON RAILROAD

Summer Arrangement.

Commencing April 20th, 1847, the cars will leave

Paterson at	New York at
8 o'clock a.m.	9½ o'clock a.m.
11½ o'clock a.m.	12 1-4 o'clock p.m.
4 o'clock p.m.	5½ o'clock p.m.

On Sunday.

8 o'clock a.m.	9½ o'clock a.m.
4 o'clock p.m.	5½ o'clock p.m.

25tf Office 75 Courtland St.

BALTIMORE AND OHIO RAILROAD.—**MAIN STEM.** The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumorland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M. and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare \$1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances.

BALTIMORE AND SUSQUEHANNA RAILROAD.—REDUCTION OF FARE.

Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.

Arrives at.....9 a.m. and 6½ p.m.

Leaves York at.....5 a.m. and 3 p.m.

Arrives at.....12½ p.m. and 8 p.m.

Leaves York for Columbia at.....11 p.m. and 8 a.m.

Leaves Columbia for York at.....8 a.m. and 2 p.m.

Fare to York.....\$1 50

" Wrightsville.....2 00

" Columbia.....2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....\$9

Or via Lancaster by railroad.....10

Through tickets to Harrisburg or Gettysburg.....3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, Sup't.

Ticket Office, 63 North st.

31 ly

LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above. 35ly

CENTRAL AND MACON AND WESTERN RAILROADS.

These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Savannah to Macon—Central Railroad.....Miles.

Macon to Atlanta—Macon and Western.....190

Atlanta to Oothcaloga—Western and Atlantic.....80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....\$0 50

Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....0 50

On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....0 20

Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....0 20 pr. 100 lbs. 35

Crockery, per cubic foot.....0 15 "

Molasses and Oil, per hhd., (smaller casks in proportion). 9 00

Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....1 25

Ploughs, (small,) and Wheelbarrows.....0 80

Salt, per Liverpool Sack.....0 70

Passage—Savannah to Atlanta, \$10; Children, under 12 years of age, half price,

Savannah to Macon, \$7.

Goods consigned to the subscriber will be forwarded free of Commissions.

Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, Forwarding Agent, C. R. R.

Savannah, Aug. 15th, 1846.

CENTRAL RAILROAD—FROM SAVANNAH TO MACON.

Distance 190 miles. This Road is open for the trans-

portation of Passengers and Freight.

Rates of Passage, \$8 00. Freight—

On weight goods generally.....50 cts. per hundred.

On measurement goods.....13 cts. per cubic ft.]

On brls. wet (except molasses and oil).....\$1 50 per barrel.

On brls. dry (except lime).....80 cts. per barrel.

On iron in pigs or bars, castings for mills, and unboxed machinery.....40 cts. per hundred.

On hds. and pipes of liquor, not over 120 gallons.....\$5 00 per hhd.

On molasses and oil.....\$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission.

THOMAS PURSE, Gen'l. Sup't. Transportation.

40

SOUTH CAROLINA RAILROAD.

A Passenger Train runs daily from Charleston,

on the arrival of the boats from

Wilmington, N. C., in connection

with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscarawas Railroad in N. Alabama.

Train through from Charleston to Montgomery daily.....\$26 50

Train through from Charleston to Huntsville, Decatur and Tuscaloosa.....22 00

The South Carolina Railroad Co. engage to receive merchandise consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

THE WESTERN AND ATLANTIC RAILROAD.

This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warren, Huntsville, Decatur and Tuscaloosa, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesboro, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,

Chief Engineer.

Atlanta, Georgia, April 16th, 1846.

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NEW YORK AND PHILADELPHIA RAILROAD.

road line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.

Mail pilot line.....4 p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....\$4 00

Second class cars.....3 00

Passengers will procure their Tickets at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use.

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m. and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily, except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York.

254

134

